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**Questions**

1. Comment on the relevance of comparative anatomy to evolution?

2) Discuss the types of comparative anatomy with relevant examples?

**Answers**

1. Comparative anatomy (evidence for evolution) deals with comparing structural similarities of organisms to determine their evolutionary relationships. There are many forms of evidence for evolution. One of the strongest forms of evidence is comparative anatomy. Organisms with similar anatomical features are assumed to be relatively closely related evolutionarily, and they are assumed to share a common ancestor. As a result of the study of evolutionary relationships, anatomical similarities and differences are important factors in determining and establishing classification of organisms.

2) Types of comparative anatomy with relevant examples

There are three types of comparative anatomy, the include;

* Homologous structure.
* Analogous structure.

●Vestigial structure.

**HOMOLOGOUS STRUCTURE**

This refers to organisms that have anatomical structures that are very similar in embryological development and form, but very different in function. A clear example of homologous structures is the forelimb of mammals. When examined closely, the forelimbs of humans, whales, dogs, and bats all are very similar in structure. Each possesses the same number of bones, arranged in almost the same way. While they have different external features and they function in different ways, the embryological development and anatomical similarities in form are striking.

**ANALOGOUS STRUCTURE**

This refers to organisms that have anatomical structures that function in very similar ways, however, morphologically and developmentally these structures are very different. For example, the wings of a bird and dragonfly both serve the same function; they help the organism to fly. However, when comparing the anatomy of these wings, they are very different. The bird wing has bones inside and is covered with feathers, while the dragonfly wing is missing both of these structures.

**VESTIGIAL STRUCTURE**

This are anatomical features that are still present in an organism even though they no longer serve a function. Whales, which evolved from land mammals, have vestigial hind leg bones in their bodies which are no longer used in their marine habitat.